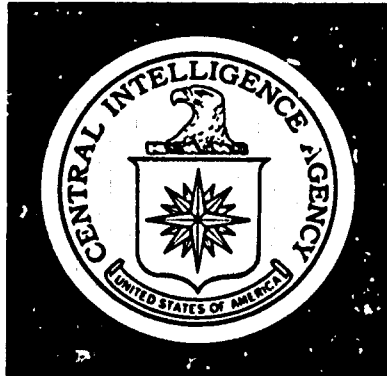


(b)(1)  
(b)(3)

~~Top Secret~~



DIRECTORATE OF  
SCIENCE & TECHNOLOGY

# WEEKLY SURVEYOR

1071120

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8 March 1971

TOP SECRET [REDACTED]

Weekly Surveyor

[REDACTED]  
8 March 1971

Soviet Lunokhod Control Crew Experiences Moon Orientation Problems: According to one of the commanders, crew control of Lunokhod 1 is difficult due to orientation problems. These problems arise because there is nothing on the moon to "fix" the eye on. For example, one big stone was estimated at a distance of about 150 m from the vehicle. The crew was asked to steer the vehicle toward the stone. The vehicle tried to approach it but the stone could not be seen because it had, in reality, been lying next to the Lunokhod. On the TV screen the stone appeared large and not located close to the vehicle.

[REDACTED]

TOP SECRET [REDACTED]  
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[REDACTED]

~~TOP SECRET~~ [REDACTED]

Weekly Surveyor

[REDACTED]  
8 March 1971

Comment: This indicates that Soviet earth crew members have moon orientation problems somewhat similar to those encountered by US astronauts walking on the moon. If this human orientation problem is not corrected the overall performance of the Lunokhod 1 could be severely limited, particularly if the vehicle encounters exceptionally hazardous terrain. Improvement of visual spatial discrimination is the objective of Soviet human factors research. It is likely that the Soviets will draw upon this research in order to improve the spatial discrimination of the Lunokhod earth crew members. This training should aid the crew members in more correctly estimating distances and sizes on the moon surface thereby ensuring a high reliability of this unique man-machine system.

[REDACTED]

~~TOP SECRET~~ [REDACTED]  
[REDACTED]